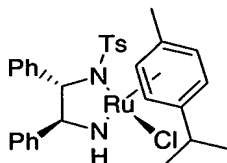


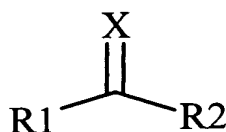
What is claimed is:

1. A method of producing a reducing catalyst, comprising:
 - a) heating a mixture of a ligand, a ruthenium complex, a secondary alcohol and a tertiary amine; and
 - b) removing the volatile components of the mixture.
2. The method of claim 1, wherein the mixture of step a is heated from about 30 °C to about 150 °C.
3. The method of claim 1, wherein the volatile components of the mixture are removed under a reduced pressure of between about 0.05 mm Hg to about 100 mm Hg.
4. The method of claim 1, wherein the secondary alcohol is isopropanol.
5. A method for preparing a reducing catalyst, comprising:
 - a) stirring a mixture of a ligand, a ruthenium complex, and a tertiary amine in a solvent; and
 - b) adding a 5:2 molar mixture of formic acid and triethyl amine.
6. The method of claim 5, wherein the solvent comprises DMF.
7. The method of claim 1, wherein the ligand is N-*p*-toluenesulfonyl-1,2-diphenylethylenediamine.
8. The method of claim 1, wherein the ruthenium complex is RuCl₂(η 6-*p*-cymene).
9. The method of claim 1, wherein the tertiary amine is triethyl amine.
10. The method of claim 1, wherein the reducing catalyst is



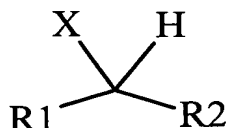
11. A reducing catalyst produced by the process of claim 1.
12. A method for reducing ketones and imines of Formula I;

- 12 -



Formula 1

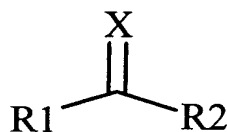
- wherein R1 and R2 are independently selected from alkyl, alkenyl, cycloalkyl, heteroalkyl, cycloheteroalkyl, aryl, heteroaryl, substituted aryl and substituted heteroaryl;
- 5 X is O or N-R3; and
 R3 is alkyl, heteroalkyl, cycloalkyl, heteroalkyl, cycloheteroalkyl, aryl, heteroaryl, substituted aryl and substituted heteroaryl; or
 R1 and R2 taken together may form a substituted or unsubstituted carbocyclic or heterocyclic ring of 3 to 12 members;
- 10 to produce alcohols or amines of Formula 2



Formula 2

- wherein R1 and R2 are as described for Formula 1; and
- 15 X is -OH or -NHR3, wherein R3 is as defined for Formula 1;
 said method comprising:
- a) stirring a mixture of a ligand, a ruthenium complex, and a tertiary amine in a solvent followed by the addition of a 5:2 molar mixture of formic acid and triethyl amine; and
- b) adding the ketone or imine to the mixture.
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13. The method of claim 12, wherein the solvent comprises DMF.
14. The method of claim 12, wherein the ligand is N-*p*-toluenesulfonyl-1,2-diphenylethylenediamine.
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15. The method of claim 12, wherein the ruthenium complex is RuCl₂(η -6-*p*-cymene).
16. A method for reducing ketones and imines of Formula 1;

- 13 -



Formula 1

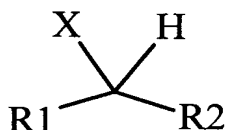
wherein R1 and R2 are independently selected from alkyl, alkenyl, cycloalkyl, heteroalkyl, cycloheteroalkyl, aryl, heteroaryl, substituted aryl and substituted heteroaryl;

5 X is O or N-R3; and

R3 is alkyl, heteroalkyl, cycloalkyl, heteroalkyl, cycloheteroalkyl, aryl, heteroaryl, substituted aryl and substituted heteroaryl; or

R1 and R2 taken together may form a substituted or unsubstituted carbocyclic or heterocyclic ring of 3 to 12 members;

10 to produce alcohols or amines of Formula 2



Formula 2

wherein R1 and R2 are as described for Formula 1; and

15 X is -OH or -NHR3, wherein R3 is as defined for Formula 1;

said method comprising:

- a) heating a mixture of a ligand, a ruthenium complex, a secondary alcohol and a tertiary amine;
- b) removing the volatile components of the mixture;
- 20 c) adding a solvent to the mixture; and
- d) adding the ketone or imine to the mixture.

17. The method of claim 16, wherein the solvent comprises DMF.

25 18. The method of claim 16, wherein the ligand is N-*p*-toluenesulfonyl-1,2-diphenylethylenediamine.

19. The method of claim 16, wherein the ruthenium complex is RuCl₂(η⁶-*p*-cymene).

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